

## ABSTRACT OF THE DISCLOSURE

The present invention relates to an enzyme-antibody complex where one or more molecule(s) of enzyme into which a maleimide group or a thiol group is introduced is/are covalently conjugated to a carrier (polylysine, aminodextyan and so forth) in which a thiol group when a maleimide group is introduced into the enzyme or to a maleimide group when a thiol group is introduced into the enzyme via them, and a maleimide group is introduced into at least one amino group remaining in the above complex and is covalently conjugated to a maleimide group of the above complex via a thiol group obtained by reduction of antibody fragment or antibody. The resulting complex is useful as an enzyme-labeled antibody particularly in immunohistochemistry and in enzyme immunoassay and makes an immunoassay with high sensitivity possible.